

Patent claims

1. (Currently Amended) A production machine comprising associated machine components including a drive, ~~at least one parallel open loop or closed loop~~ ~~a control branch unit for controlling said drive~~, and ~~a~~ detectors for measuring and registering at least one positional determination and determining at least two variables fed to said control unit which are generated during the operation of the machine, wherein the control unit comprises a first positional setpoint determination is provided unit receiving said first variable, a correctional setpoint determination unit receiving said second variable and a setpoint, and a machine control unit receiving said positional setpoint and said correctional setpoint for generating a machine control parameter, wherein said correctional setpoint determination unit generates a first and second correctional setpoint depending whether a threshold of the first which can be counteracted in said control branch by a setpoint correction derived from a positionally dependent setpoint profile when at least one additional positionally dependent measured variable is exceeded.
2. (Original) A production machine according to claim 1 wherein the drive is selected from the group consisting of hydraulic, electric and a combination of hydraulic and electric.
3. (Currently Amended) An injection molding machine for the manufacture of plastic parts comprising an advancing screw for driving the injection and generating an injection pressure, said machine further comprising means for detecting and registering the injection pressure and position of said screw as measured variables during operation, said screw having at least one speed/displacement profile variable and a first and second

pressure/displacement profile variable wherein the at least one speed/displacement profile variable can be predetermined as a positionally dependent setpoint value which can be counteracted if the by said first or second pressure/displacement profile variable depending on whether said position is exceeded a predetermined threshold position.

4. (Withdrawn) The injection molding machine according to claim 3 further comprising a mold having at least two positionally dependent variables, wherein at least one speed/displacement profile variable can be predetermined as a positionally dependent setpoint value which can be counteracted if a mold closing pressure/displacement profile variable is exceeded.
5. (Withdrawn) The injection molding machine according to claim 4 further comprising an ejection mechanism in association with the mold, wherein said mechanism has at least two positionally dependent variables and wherein at least one speed/displacement profile variable can be predetermined as a positionally dependent setpoint value which can be counteracted if an ejecting force/displacement profile variable is exceeded.
6. (Currently Amended) The injection molding production machine according to claim 13 wherein the drive advances a screw for driving an injection and generating an injection pressure, and wherein the first variable is a position of said drive and the second variable is said injection pressure further comprising a speed/time profile and a measured variable/time profile.

7. (Currently Amended) The injection molding machine according to claim 3 wherein the speed displacement profile and measured variable/displacement profile is replaced respectively by a speed/time profile and measured variable/time profile first pressure profile is pressure/displacement profile and the second pressure profile is a pressure/time profile.

8. (Currently Amended) The injection molding machine according to claims 6 and 7 wherein the speed/time displacement profile and/or the measured variable/time pressure profiles can be predetermined.

9. (Withdrawn) The production machine according to claim 1 comprising the machine components of an industrial press.

10. (Currently Amended) A method for the open-loop control of a production machine according to claim 1 comprising the steps of:
- determining a positional setpoint from at least one actual position a first variable of a movement in a first control branch inputting a setpoint by means of at least one speed/displacement profile variable;
- determining a correctional setpoint from a second variable and either a first or second setpoint depending whether a threshold of the first variable is exceeded, and
- generating a machine control parameter from said positional setpoint and said correctional setpoint and inputting in a second control branch a setpoint at least one

~~positionally dependent measured variable/displacement profile, said setpoint is counteracted if said profile is exceeded.~~

11. (Currently Amended) A-The method according to claim 10, wherein the positional setpoint is determined by a speed/displacement profile, the first setpoint is determined by a pressure/displacement profile, and the second setpoint is determined by a pressure/time displacement for the open loop control of the injection molding machine according to claim 3 comprising the steps of registering at least one actual position of movement; inputting a setpoint by means of at least one speed/displacement profile variable; and inputting in a second control setpoint for least one positionally dependent measured variable/displacement profile, said setpoint being counteracted if said profile is exceeded.
12. (Withdrawn) A method according to claim 11 wherein the injection-molding machine further comprises a mold the positional determination of which is a function of the closing/opening speed and for the opening and/or closing pressure of the mold.
13. (Withdrawn) A method according to claim 12 wherein the mold further comprises an ejection mechanism, the positional determination of which is a function of the speed and/or ejection force of the ejection mechanism.
14. (Canceled) The method according to claim 11 for use with an injection molding machine according to claim 6.

15. (Canceled) The method according to claim 11 for use with the injection molding machine according to claim 7.
16. (Canceled) The method according to claim 14 wherein at least one profile is predetermined.
17. (Canceled) The method according to claim 15 wherein at least one profile is predetermined.
18. (Withdrawn) The method according to claim 10 for use with an industrial press.
19. (NEW) A production machine according to claim 1 wherein the correctional setpoint determination unit comprises a first setpoint determination unit receiving said first variable, a second setpoint determination unit receiving a third variable, a select unit controlled by said threshold for selecting said first or second setpoint as said setpoint.
20. (NEW) A production machine according to claim 19 further comprising a subtraction unit for subtracting said second variable from said setpoint and a function unit for generating said correctional setpoint receiving an output signal from said subtraction unit.
21. (NEW) A production machine according to claim 20 wherein the select unit further selects a first or second parameter set which is fed to said function unit.

22. (NEW) The production machine according to claim 1 further comprising a mold, wherein the drive positions said mold and wherein the first variable is a position of said mold and the second variable is a mold closing pressure.
23. (NEW) The production machine according to claim 1 further comprising an ejection mechanism, wherein the drive controls an ejection and wherein the first variable is a position of said ejection mechanism and the second variable is an ejecting force.
24. (NEW) The method according to claim 11 wherein the first variable is the position of a mold and the positional setpoint is a function of the closing/opening speed and the second variable is a opening and/or closing pressure of the mold.
25. (NEW) The method according to claim 11 wherein the first variable is the position of an ejection mechanism of a mold, the positional setpoint is a function of the speed of the ejection mechanism and the second variable is an ejection force of the ejection mechanism .